WHAT IS CLAIMED:

Claim 1. A propylene polymer composition which is the product obtained by the steps comprising:

polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(i) (a) a zirconocene compound represented by the following formula

$R^1R^2R^3R^4Zr$

wherein two of R^1, R^2, R^3 and R^4 are each a substituted indenyl group substituted with aryl group, and linked together through a dimethylsilylene; and remaining two of R^1, R^2, R^3 and R^4 are each a halogen atom, and

(ii) at least one organoaluminum oxy-compound,

to prepare a propylene polymer (A1) having a melt flow rate (MFR), as measured according to ASTM D-1238, at 230°C under a load of 2.16 kg, of 0.01 to 30 g/10 min.; and a molecular weight distribution (Mw/Mn), as measured by gel permeation chromatography (GPC), of 2 to 3;

polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(i) (a) a zirconocene compound represented by the following formula

$R^1R^2R^3R^4Zr$

wherein two of R^1, R^2, R^3 and R^4 are each a substituted indenyl group substituted with aryl group, and linked together through a dimethylsilylene; and the remaining two of R^1, R^2, R^3 and R^4 are each a halogen atom, and

(ii) at least one organoaluminum oxy-compound,

to prepare a propylene polymer (A2) having a melt flow rate (MFR), as measured according to ASTM D-1238, at 230°C under a load of 2.16 kg, of 30 to 1000 g/10 min.; and a molecular weight distribution (Mw/Mn), as measured by gel permeation chromatography (GPC), of 2 to 4; wherein the ratio ((A2)/(A1)) of the MFR of said

propylene polymer (A2) to the MFR of said propylene polymer (A1) is not less than 30; and

mixing 10 to 90% by weight of the propylene polymer (A1) and 10 to 90% by weight of the propylene polymer (A2).

Claim 2. A propylene polymer composition which is the product obtained by a multi-stage polymerization method comprising the steps of:

polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(i) (a) a zirconocene compound represented by the following formula

$$R^1R^2R^3R^4Zr$$

wherein two of R^1, R^2, R^3 and R^4 are each a substituted indenyl group substituted with aryl group, and linked together through dimethylsilylene; and the remaining two of R^1, R^2, R^3 and R^4 are each a halogen atom, and

(ii) at least one organoaluminum oxy-compound,

to prepare a propylene polymer (A1) having a melt flow rate (MFR), as measured according to ASTM D-1238, at 230°C under a load of 2.16 kg, of 0.01 to 30 g/10 min.; and a molecular weight distribution (Mw/Mn), as measured by gel permeation chromatography (GPC), of 2 to 3;

polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(i) (a) a zirconocene compound represented by the following formula

$$R^1R^2R^3R^4Zr$$

wherein two of R^1, R^2, R^3 and R^4 are each a substituted indenyl group substituted with aryl group, and linked together through dimethylsilylene; and the remaining two of R^1, R^2, R^3 and R^4 are each a halogen atom, and

(ii) at least one organoaluminum oxy-compound,

to prepare a propylene polymer (A2) having a melt flow rate (MFR), as measured according to ASTM D-1238, at 230°C under a load of 2.16 kg, of 30 to 1000 g/10 min.; and a molecular weight distribution (Mw/Mn), as measured by gel permeation chromatography (GPC), of 2 to 4; wherein the ratio ((A2)/(A1)) of the MFR of said propylene polymer (A2) to the MFR of said propylene polymer (A1) is not less than 30; and

wherein the steps of preparing the propylene polymers (A1) and (A2) are conducted in an arbitrary order; and the amount of the propylene polymer (A1) is 10 to 90% by weight, the amount of the propylene polymer (A2) is 10 to 90% by weight.

Claim 3. A propylene polymer composition which is the product obtained by the steps comprising:

polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(d) a solid titanium catalyst compound, and

(e) an organoaluminum compound catalyst component,

to prepare a propylene polymer (A3) having a melt flow rate (MFR), as measured according to ASTM D-1238, at 230°C under a load of 2.16 kg, of 0.01 to 30 g/10 min.; and a molecular weight distribution (Mw/Mn), as measured by gel permeation chromatography (GPC), of 4 to 15;

polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(i) (a) a zirconocene compound represented by the following formula

$R^1R^2R^3R^4Zr$

wherein two of R^1, R^2, R^3 and R^4 are each a substituted indenyl group substituted with aryl group, and linked together through dimethylsilylene and the remaining two of R^1, R^2, R^3 and R^4 are each a halogen atom, and

(ii) at least one organoaluminum oxy-compound,

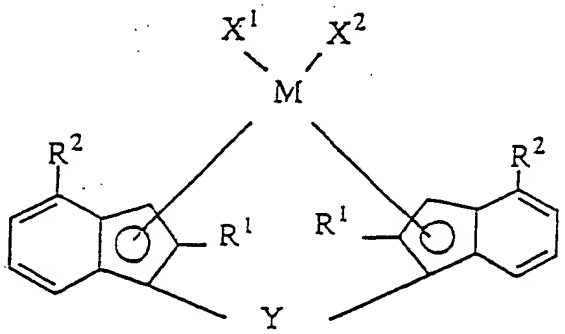
to prepare a propylene polymer (A2) having a melt flow rate (MFR), as measured according to ASTM D-1238, at 230°C under a load of 2.16 kg, of 30 to 1000 g/10 min.; and a molecular weight distribution (Mw/Mn), as measured by gel permeation chromatography (GPC), of 2 to 4; and

mixing 10 to 90% by weight of a propylene polymer (A3) and 10 to 90% by weight of the propylene polymer (A2).

Claim 4. The propylene polymer composition as claimed in claim 1 or 2, which further comprises, blended therewith, 3 to 30 parts by weight, based on 100 parts by weight of total amount of propylene polymers (A1) and (A2), of a soft polymer (B) which is a (co)polymer of ethylene or an α-olefin of 3 to 20 carbon atoms, and having MFR, as measured at 190°C under a load of 2.16 kg, of 0.01 to 100 g/10 min., and a crystallinity, as measured by x-ray diffractometry, of less than 30%.

Claim 5. The propylene polymer composition as claimed in claim 3, which further comprises, blended therewith, 3 to 30 parts by weight, based on 100 parts by weight of total amount of propylene polymers (A3) and (A2), of a soft polymer (B) which is a (co)polymer of ethylene or an α-olefin of 3 to 20 carbon atoms, and having MFR, as measured at 190°C under a load of 2.16 kg, of 0.01 to 100 g/10 min., and a crystallinity, as measured by x-ray diffractometry, of less than 30%.

Claim 6. The propylene polymer composition according to claim 1 wherein the zirconocene compound (i)(a) used to prepare propylene polymer (A1) and propylene polymer (A2) is a compound represented by the formula (I):



(I)

wherein M represents a zirconium atom;

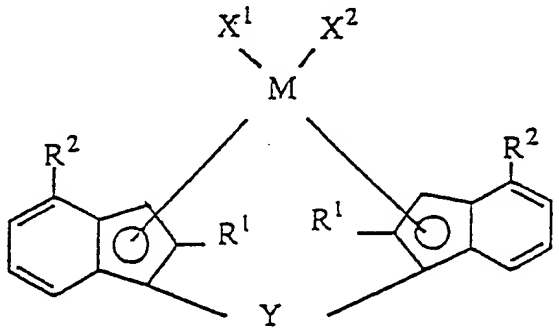
X^1 and X^2 each represent a halogen atom;

R^1 represents an alkyl group of from 2 to 6 carbon atoms;

R^2 represents an aryl group having from 6 to 16 carbon atoms; and

Y represents dimethylsilylene.

Claim 7. The propylene polymer composition according to claim 2 wherein the zirconocene compound (i)(a) used to prepare propylene polymer (A1) and propylene polymer (A2) is a compound represented by the formula (I):



(I)

wherein M represents a zirconium atom;

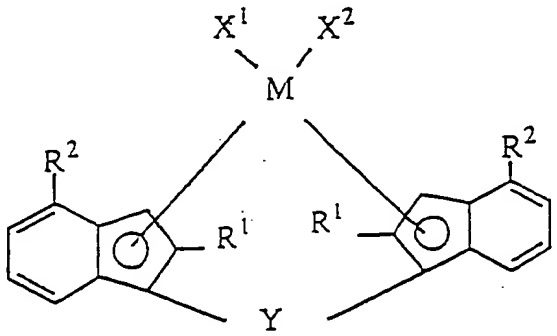
X^1 and X^2 each represent a halogen atom;

R^1 represents an alkyl group of from 2 to 6 carbon atoms;

R^2 represents an aryl group having from 6 to 16 carbon atoms; and

Y represents dimethylsilylene.

Claim 8. The propylene polymer composition according to claim 3 wherein the zirconocene compound (i)(a) is a compound represented by the formula (I):



(I)

wherein M represents a zirconium atom;

X^1 and X^2 each represent a halogen atom;

R^1 represents an alkyl group of from 2 to 6 carbon atoms;

R^2 represents an aryl group having from 6 to 16 carbon atoms; and

Y represents dimethylsilylene.

Claim 9. The propylene polymer composition according to claim 1 wherein the zirconocene compound (i)(a) used to prepare propylene polymer (A1) and propylene polymer (A2) is rac-dimethylsilyl-bis(2-ethyl-4-phenylindenyl)zirconium dichloride.

Claim 10. The propylene polymer composition according to claim 2 wherein the zirconocene compound (i)(a) used to prepare propylene polymer (A1) and propylene polymer (A2) is rac-dimethylsilyl-bis(2-ethyl-4-phenylindenyl)zirconium dichloride.

Claim 11. The propylene polymer composition according to claim 3 wherein the zirconocene compound (i)(a) is rac-dimethylsilyl-bis(2-ethyl-4-phenylindenyl)zirconium dichloride.

Claim 12. A propylene polymer composition comprising a physical or chemical blended mixture of from 10 to 90% by weight of first propylene polymer (A1) and from 10 to 90% by weight of second propylene polymer (A2),

wherein polymer (A1) has a melt flow rate (MFR), measured according to ASTM D-1238, at 230°C, under a load of 2.16 kg, of 0.01 to 30 g/10 min; and a molecular weight distribution (Mw/Mn), measured by gel permeation chromatography (GPC), of 2 to 3; and

wherein propylene polymer (A2) has a melt flow rate (MFR), measured according to ASTM D-1238, at 230°C, under a load of 2.16 kg, of 30 to 1000 g/10min; and a molecular weight distribution (Mw/Mn), measured by gel permeation chromatography (GPC), of 2 to 4; and

wherein propylene polymer (A1) and propylene polymer (A2) are each obtained by polymerizing propylene in the presence of an olefin polymerization catalyst comprising

(i)(a) a zirconocene compound represented by the formula

$$R^1R^2R^3R^4Zr$$

wherein R^1 and R^2 each represent indenyl substituted with an alkyl group and an aryl group;

R^3 and R^4 each represent a halogen atom;

and wherein the two substituted indenyl groups are linked to each other through dimethylsilylene; and

(ii) at least one organoaluminum oxy-compound; and

wherein the ratio of the MFR of propylene polymer (A2) to the MFR of propylene polymer (A1) is not less than 30.

Claim 13. The propylene polymer composition according to claim 12 wherein propylene polymer (A1) has a crystallinity of not less than 40% and contains not more than 10 mole% of another olefin; and

propylene polymer (A2) has a crystallinity of not less than 40% and contains not more than 5 mole% of another olefin.

Claim 14. The propylene polymer composition according to claim 13 wherein propylene polymer (A1) is a propylene homopolymer.

Claim 15. The propylene polymer composition according to claim 14 wherein propylene polymer (A2) is a propylene homopolymer.

Claim 16. The propylene polymer composition according to claim 13 wherein propylene polymer (A2) is a propylene homopolymer.

Claim 17. The propylene polymer composition according to claim 13 which comprises from 30 to 70% by weight of propylene polymer (A1) and from 30 to 70% by weight of propylene polymer (A2).